

SLEEP OBTAINED BY CABIN CREWMEMBERS DURING A LONG-HAUL FLIGHT

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SLEEP 2021, JUNE 10-13

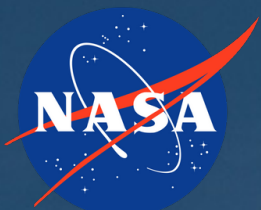
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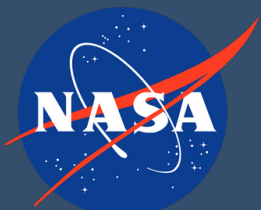


INTRODUCTION

Sleep loss and circadian disruption pose a significant risk in safety-sensitive occupations.

Few studies have evaluated cabin crew.

Evaluate sleep and performance among cabin crewmembers sleeping in a bunk compared to a jump seat.



CREW REST FACILITY

Bunk
Class 1 rest facility

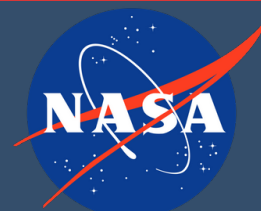


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High Comfort Jump Seat
Class 3 rest facility



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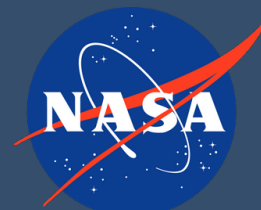
Background

Fatigue factors: irregular schedule, sleep loss and circadian disruptions, workload (Nesthus et al., 2007)

Issues with cabin crew rest facilities (van den Berg et al., 2020)

Insufficient quality of onboard rest facilities and poor sleep quality (van Dijk et al., 2019)

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STUDY PROTOCOL

n = 30 cabin crew members

- Randomly assigned to either bunk or jump seat
- Actiwatch and sleep diary throughout the study
- PVT and KSS three times daily
- In flight: nap information, PVT, and KSS

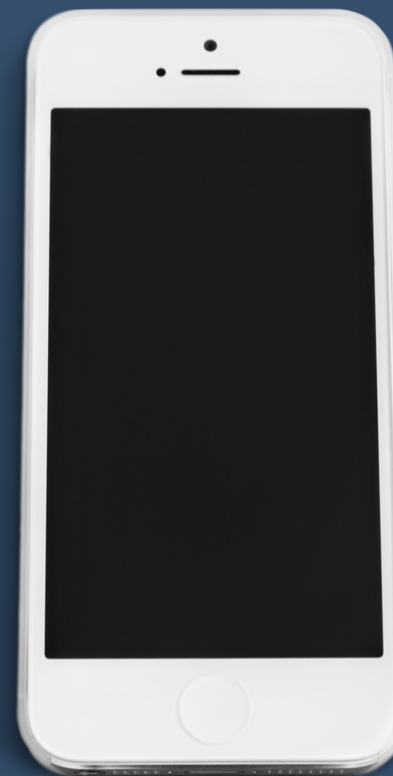
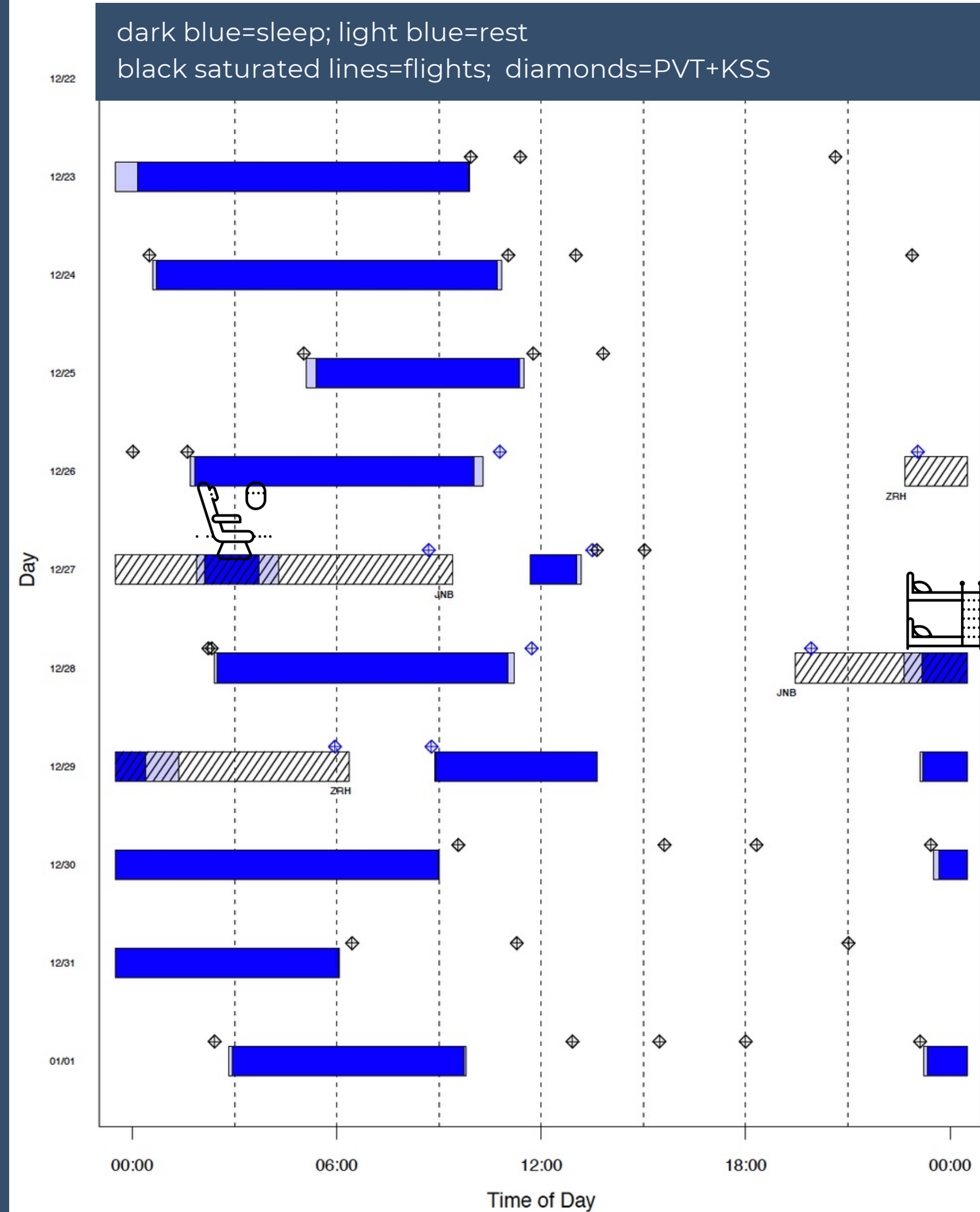


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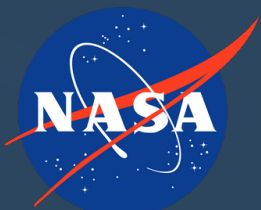
DEMOGRAPHICS

n =30 (6 male)

	Mean +/- SD
Age	30.5 (12.8)
Flight hours	4,573.4 (6,003.7)
Self-reported sleep need	7.9 (0.9)
MEQ score	49.1 (6.8)
ESS score	8.4 (2.5)

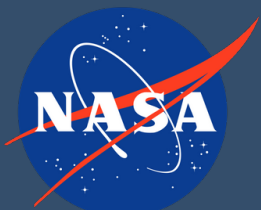
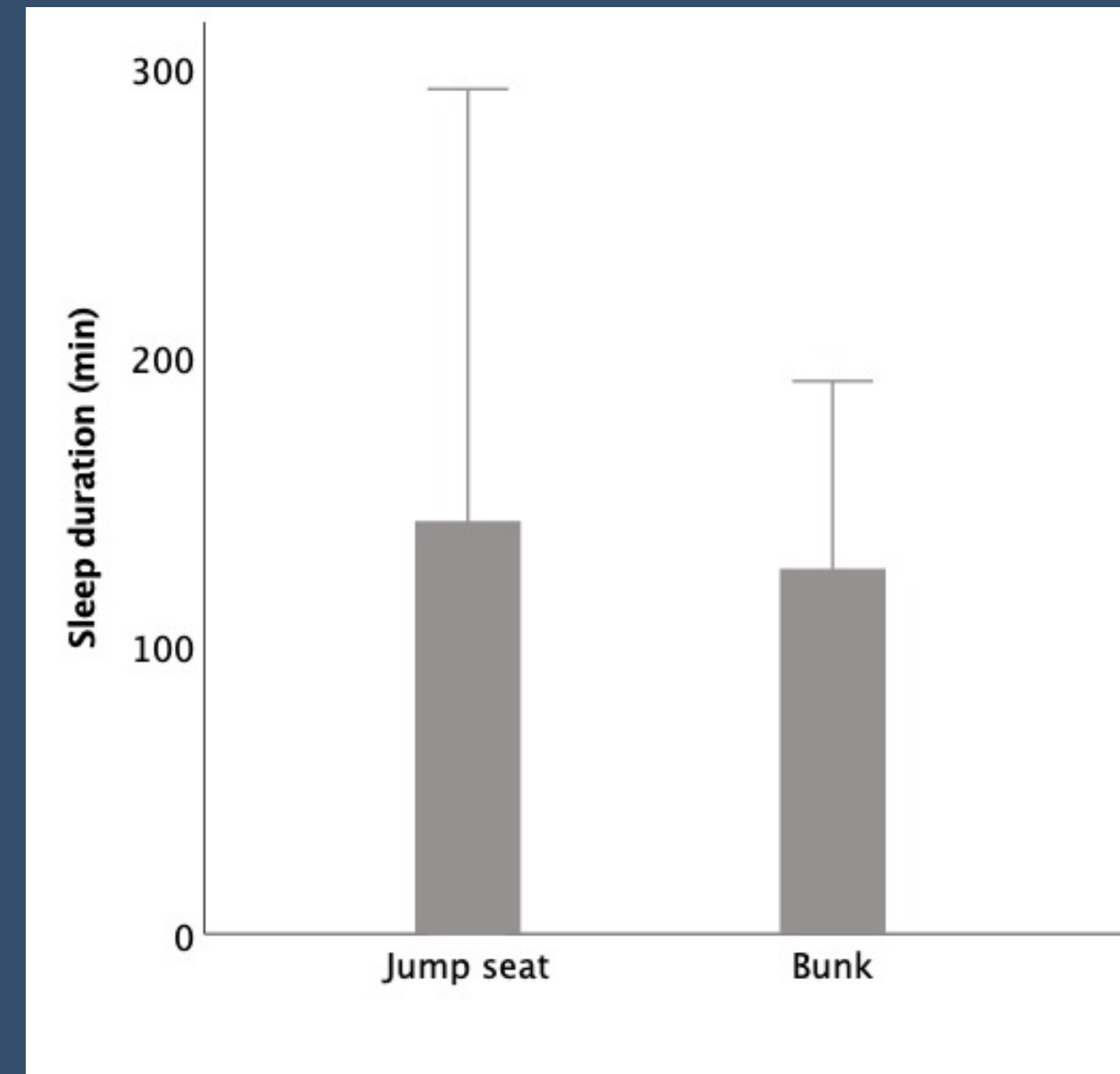
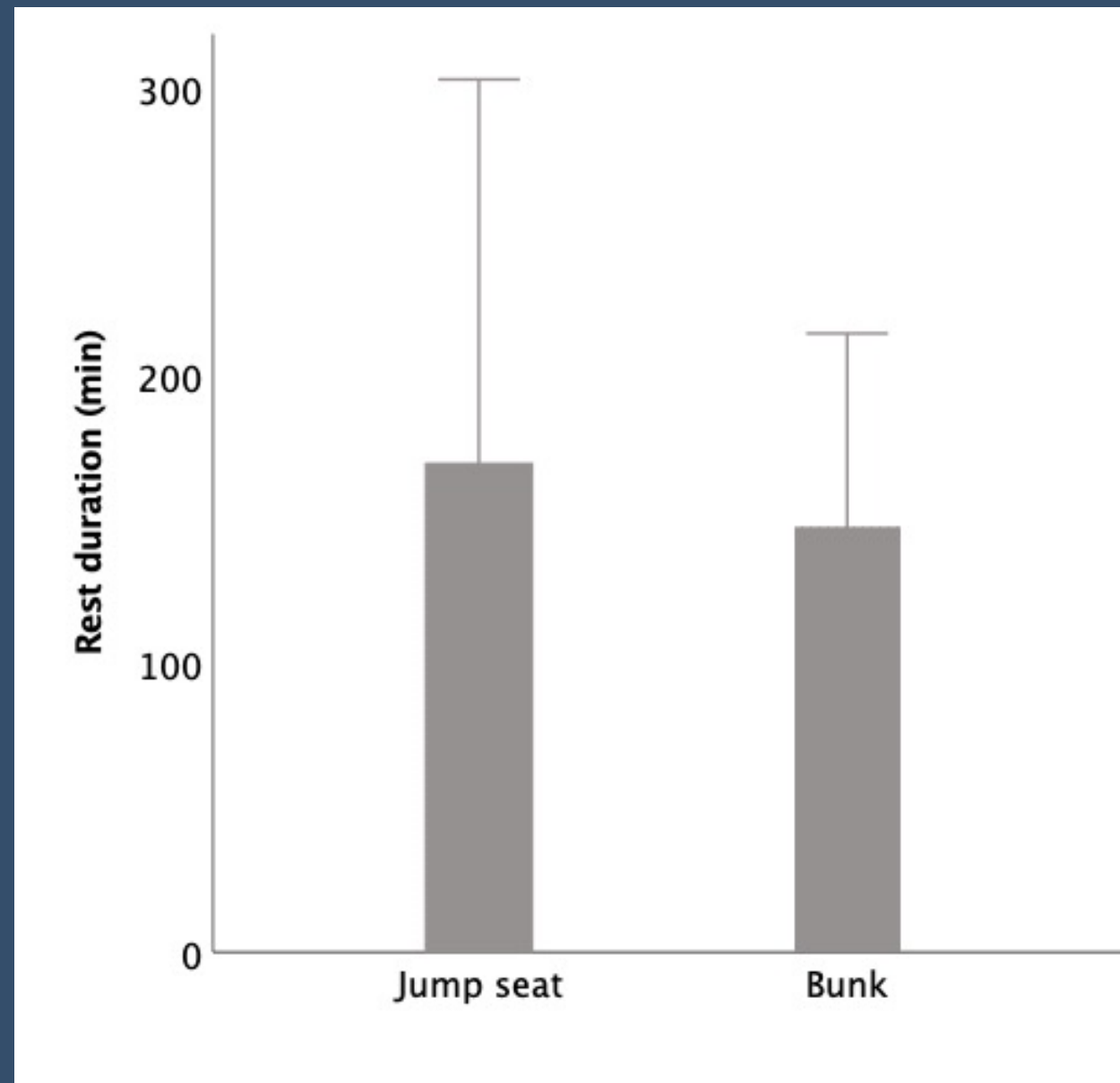
Flight duration: 10:41 (\pm 0:14) hours

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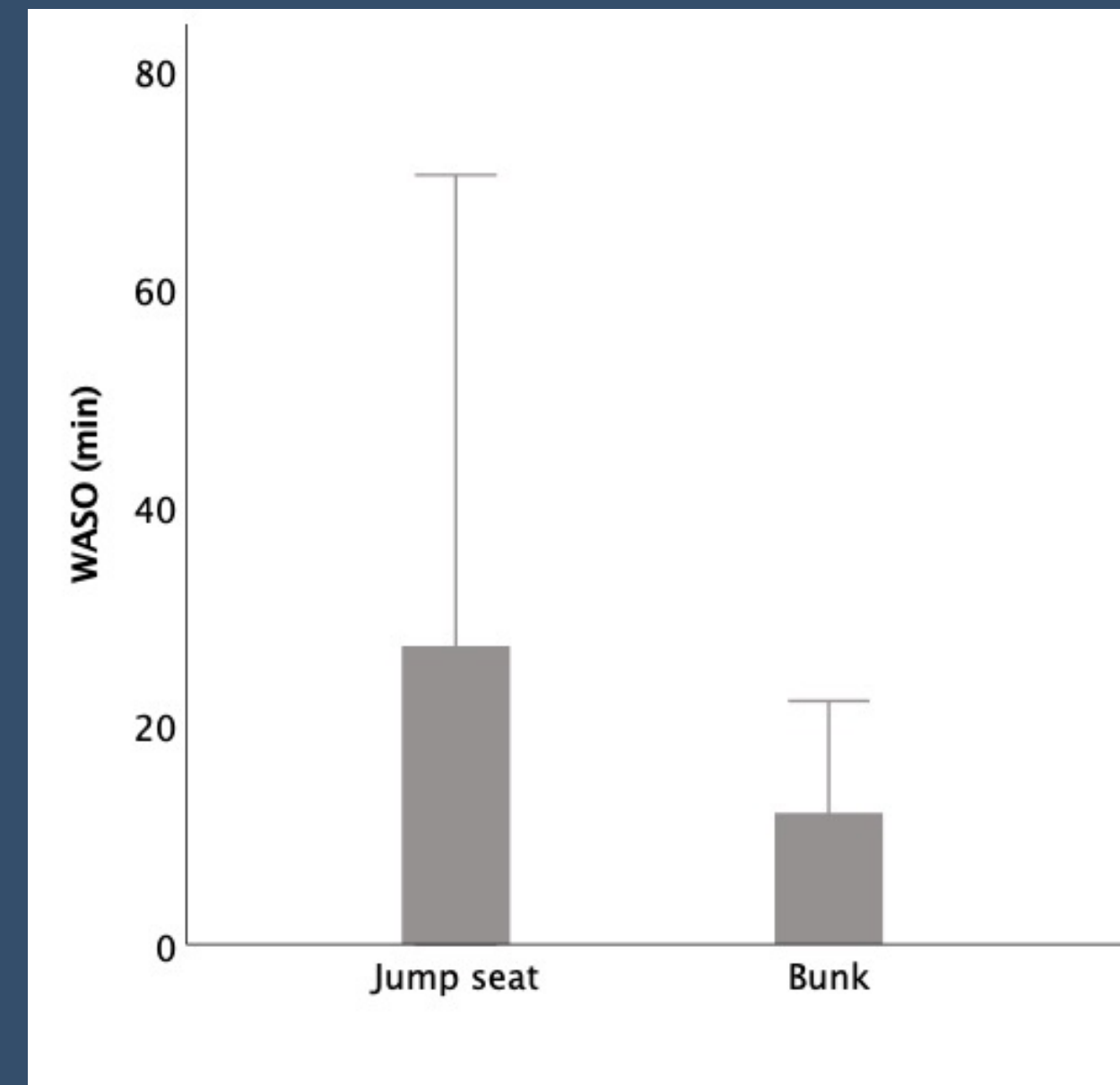
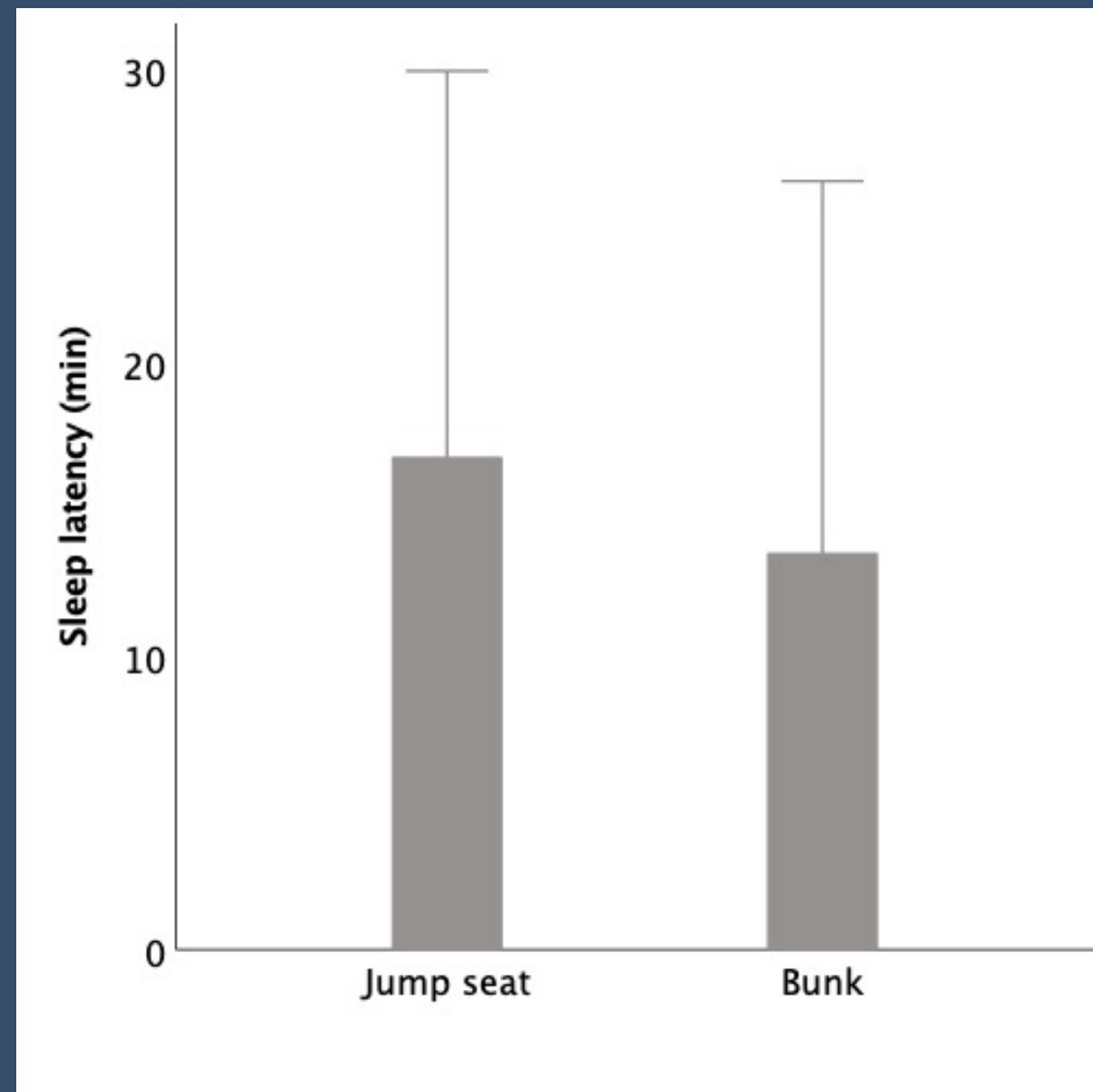
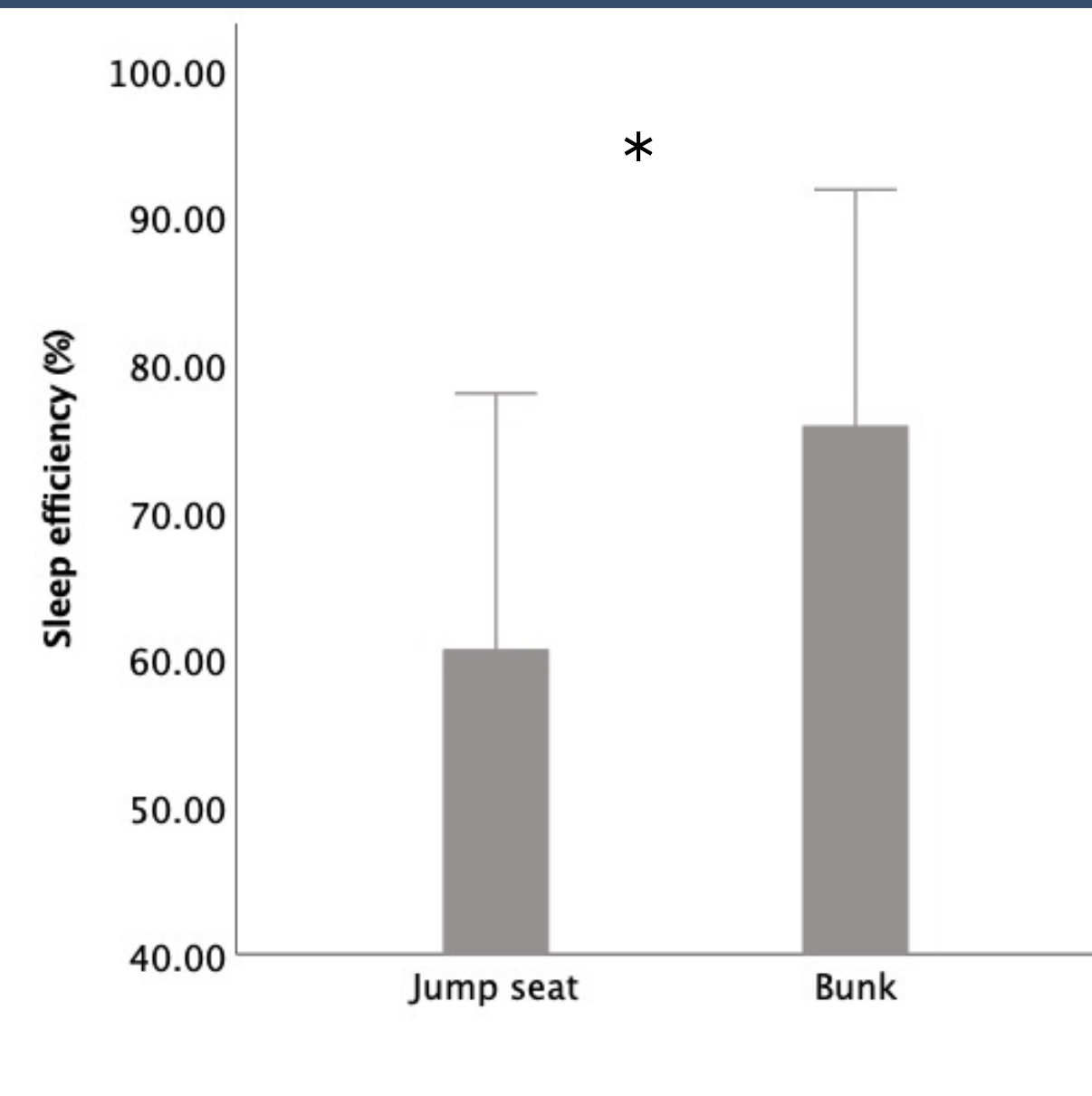
SLEEP OUTCOMES

We did not detect a statistically significant difference between bunk and jump seat



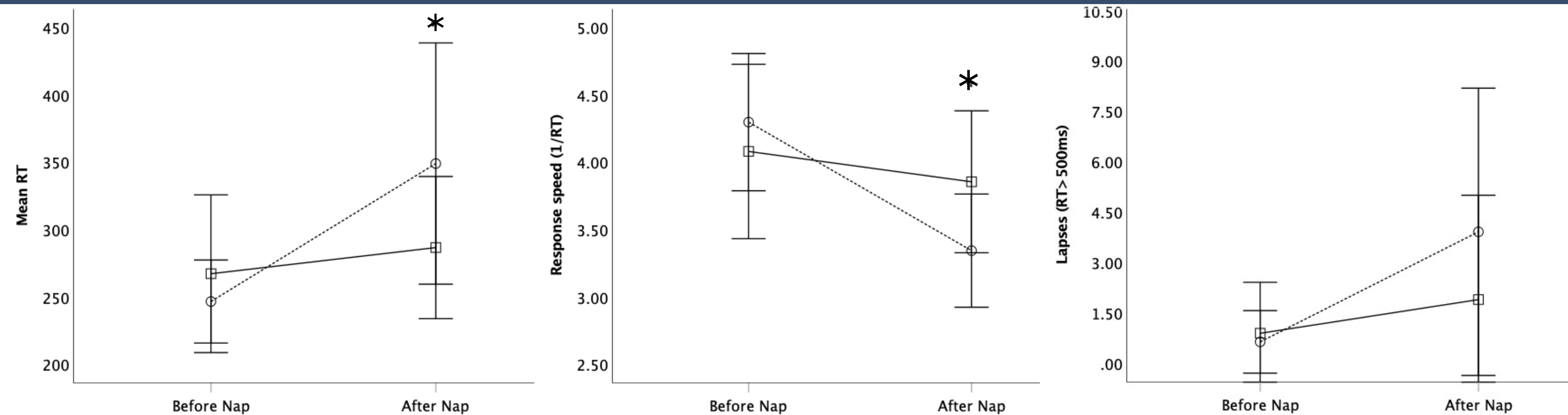
SLEEP OUTCOMES

- Sleep efficiency was significantly better when sleeping in the bunk
- Sleep latency and WASO were not significantly different

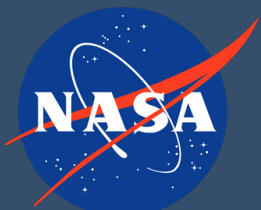


PVT PERFORMANCE

- Mean RT significantly lower and Response speed significantly faster after crewmembers slept in the bunk
- No significant difference for lapses



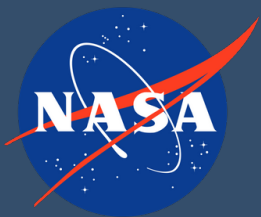
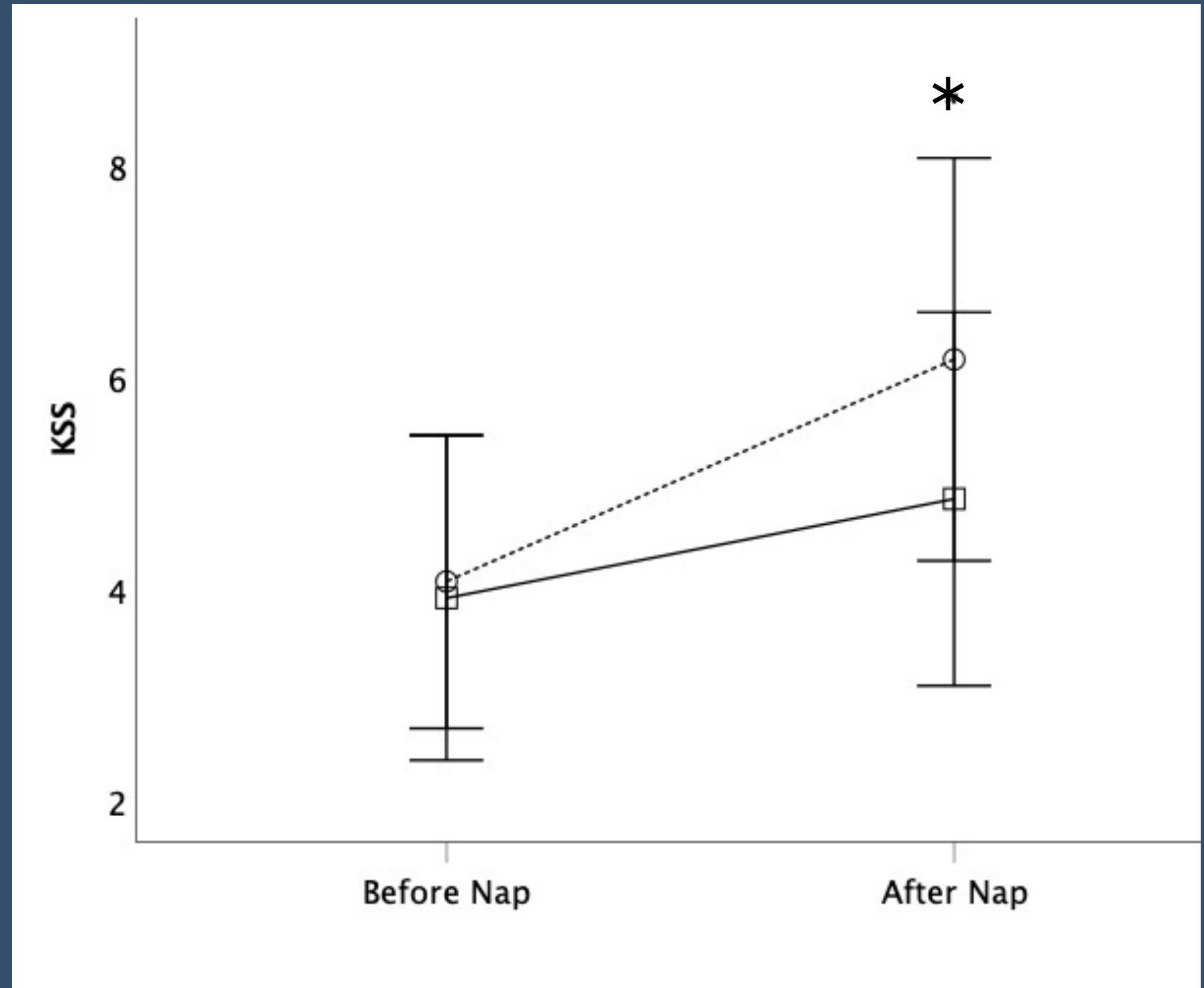
□ Bunk ○ Jump seat



KSS

Significantly higher sleepiness after sleeping in the jump seat

- Bunk
- Jump seat



Rest and sleep longer in the jump seat, but sleep efficiency significantly better in the bunk

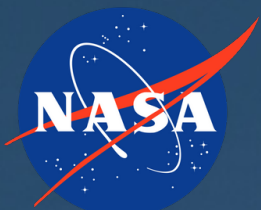
Performance better after sleeping in the bunk

Sleepiness better after sleeping in the bunk

Future research - collect more data

CONCLUSIONS

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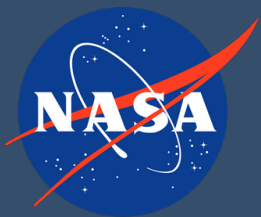


THANK YOU

CABIN CREWMEMBERS

AIRLINE STAFF

NASA Airspace Operations and Safety Program, System-Wide Safety Project



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